

Appln. No. 10/653,205  
Amdt. dated October 13, 2004  
Reply to Office Action of April 15, 2004  
SPECIFICATION SHOWING CHANGES

MULTI-FUNCTION GOLF TRAINING DEVICE

**BACKGROUND OF THE INVENTION**

**1. Field of the Invention**

The present invention relates to a golf training device, and more particular particularly to a multi-function golf training device for training putting and approaching skills.

**2. Description of the Related Art**

A prior art with the U.S. patent application number US 10/420821 is a prior art in the name of the present inventor applied. In this prior art disclosed discloses that three automatically elevating assemblies provided on the bottom of the base member. and these These three automatically elevating assemblies can define a plate and can be adjusted by a controller or by programming to make the putting green change change the sloping degree of the putting green. By the way, this will make the training more fun and challenge challenging. Also the user can adjust the sloping degree of the putting green to a special degree for a particular purpose.

But, even though the prior art had been disclosed with the excellent structures. The cost, the cost of the production is still too high, however, and which makes this invention prior art invention not popular.

**SUMMARY OF THE INVENTION**

The primary objective of the present invention is to provide a golf training device, which can adjust, up or down, ~~or~~ the sloping degree of the putting green easily and reduce the ~~cost~~ cost of the production.

According to the objective of the present invention, a golf training device comprise a base member, at least three elevating assemblies ~~provide~~provided on the base member and each of the elevating assemblies has a elevating part that can be forced up or down by external power, a putting green board pivots on those elevating parts of those elevating assemblies, and wherein the sloping degree of the putting green can be adjusted by moving these elevating parts, the putting green includes a ball cavity for the golf ball and the ~~out~~ side~~outside~~ of the base member includes a wall around the base member and a vent, the base member has a recess for the ball cavity of the putting green, a ball trench ~~array~~sarranged on the base member and beside the putting green and a guide way connects the ball trench and the recess.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a perspective view of the first preferred embodiment of the present invention;

FIG. 2 is a top view of FIG. 1 without the divot;

FIG. 3 is a top view of FIG. 2 without the putting green board;

FIG. 4 is a sectional view along the 4-4 line in FIG. 2 shows the putting green board in the horizontal posture;

FIG. 5 is a sectional view as FIG. 4 shows the putting green board in the lowest position of the horizontal posture;

FIG. 6 is a sectional view as FIG. 4 shows the putting green board in the upward posture;

FIG. 7 is a sectional view as FIG. 4 shows the putting green board in the downward posture;

FIG. 8 is a sectional view along the 8-8 line in FIG. 2 shows two elevating ~~assemblers~~assemblies in the lowest position of the horizontal posture;

FIG. 9 is a view as of FIG. 8 ~~shows~~showing the putting green board ~~is~~—inclined to the left side;

FIG. 10 is a view as of FIG. 8 ~~shows~~showing the putting green board ~~is~~—inclined to the right side;

FIG. 11 is a perspective view of the artificial elevating ~~assembler~~assembly structures of the first preferred embodiment of the present invention ~~shows~~shown in the highest position;

FIG. 12 is a sectional view along the line 12-12  
line in FIG. 11;

FIG. 13 is a view as FIG. 11 shows the artificial  
elevating assembler assembly in the lowest position;

FIG. 14 is a sectional view along the line 14-14  
line in FIG. 13;

FIG. 15 is a sectional view along the line 15-15  
line in FIG. 11;

FIG. 16 is a top view of the automatically elevating  
assembler assembly structures of the first preferred  
embodiment of the present invention;

FIG. 17 is a side view of the automatically  
elevating assembler assembly structures shows in the lowest  
position;

FIG. 18 is a view as-of FIG. 17 showsshow in the  
highest position;

FIG. 19 is another side view of the automatically  
elevating assembler assembly structures showsshow in the  
lowest position;

FIG. 20 is another side view of the automatically  
elevating assembler assembly structures showsshow in the  
highest position; and

FIG. 21 and FIG. 22 are the section viewviews of the  
second embodiment of present invention.

**DETAILED DESCRIPTION OF THE INVENTION**

As shown from FIG. 1 to FIG. 4, show a golf training device of the first preferred embodiment of the present invention comprises:-

A base member 10 in orthogonal shape has a wall 11 around in three sides thereof, and a vent 12 at one side, and an L-shaped ball trench 13 arrays arranged beside the wall 11 forming the vent 12. Said base member 10 has a recess 14 in the center area and connects with the ball trench 13 by a guide way 15.

There are three elevating assemblers nonlinearly assemblies nonlinearly provided on said base member 10. There are an artificial elevating assemblerassembly 20 and two automatically elevating assemblersassemblies 30 in the first embodiment of present invention. and each Each elevating assemblerassembly has a elevating part 25, 32, respectively, that can be forced up or down by external power. These structures and actions will be discussed hereafter.

A putting green board 50 pivots on those elevating parts 25, 32 of those elevating assemblies and the sloping degree and direction can adjust be adjusted by moving those elevating parts up or down. Said putting green board includes a ball cavity 51 for the recess 14 of the base member.

An elongated alley 60 ~~setssits~~ on the putting green board 50 and has a hole 61 for the ball cavity 51.

A control device 70 that is a set of circuitry is provided on the base member 10 to control those automatically elevating ~~assembler~~assemblies.

A microswitch 80 ~~setssits~~ in the guide way 15. Said microswitch will give a signal to the control device 70 for counting the point when the golf ball runs over it.

The—FIG. 4 shows the device of the first embodiment of present invention in the highest horizontal position—~~of the horizontal posture~~.

The—FIG. 5 shows the device of the first embodiment of present invention in the lowest horizontal position—~~of the horizontal posture~~.

The—FIG. 6 shows the artificial elevating ~~assembler~~assembly 20 in the highest position and the automatically elevating ~~assembler~~assemblies 30 in the lowest position—~~positions~~. The putting green board is inclined downwardly from the back to the vent 12 for ~~the~~—upward putting practice.

The—FIG. 7 shows the artificial elevating ~~assembler~~assembly 20 in the lowest position and the automatically elevating ~~assembler~~assemblies 30 in the highest position—~~positions~~. The putting green board is inclined

downwardly from the vent 12 to the back for downward putting practice.

FIG. 8 shows the automatically elevating ~~assemblies~~ assemblies 30 are all ~~both~~ in the lowest position and the putting green board is in the horizontal posture.

FIG. 9 shows the automatically elevating ~~assemblies~~ assembly 30 at the left side is in the lowest position and the automatically elevating ~~assemblies~~ assembly 30 at the right side is in the highest position and the putting green board 50 is inclined to the left side.

FIG. 10 shows the automatically elevating ~~assemblies~~ assembly 30 at the left side is in the highest position and the automatically elevating ~~assemblies~~ assembly 30 at the right side is in the lowest position and the putting green board 50 is inclined to the right side.

These two automatically elevating ~~assemblies~~ assemblies 30 can control the sloping degree and direction of the putting green board 50 and the degree and direction can be changed into many different practice types by ~~swinging~~ using the artificial elevating ~~assembler~~ assembly 20 moreover.

As shown from FIG. 11 to FIG. 15, is construction of the artificial elevating ~~assembler~~ assembly 20 of the first embodiment of present invention ~~including~~.

A shell 21 is provided on the base member 10 in at one end by studs 22 and a long chase 23 is provided downward on the shell from the top. There are many annular flutings 24 provided on the inside wall of the meta-long chase 23.

An elevating part 25 has two flexible arms 26 and receives the arms 26 in the long chase 23-~~for portion~~. Said elevating part is slid able and positionable by the flexible arms 26 and the fluting 24. The fore part of the shell 21 has two limitative parts 27 that are two long holes. Said elevating part 25 has two tappets 28 which receive are received in the long hole 27 to make an uppermost stop position and a ~~nethermost~~lowermost stop position for the elevating part 25.

A connector 29 goes through a hole that is pre-set on the putting green board and fixes on the top of the elevating part 25.

FIG. 11 and FIG. 12 show the elevating part 25 ~~is~~-in the uppermost stop position.

FIG. 13 and FIG. 14 show the elevating part 25 ~~is~~-in the ~~nethermost~~lowermost stop position.

~~As shown from~~ FIG. 16 to FIG. 20, is show the automatically elevating ~~assembler~~assemblies 30 of the first embodiment of present invention, including:

A including shell 31;

An elevating part 32 ~~in tube~~ having a tubular shape is provided on the shell 31 and a rib 33 is provided on the outside of the elevating part 32 ~~in order to avoid rotation of~~ the elevating part 32 ~~rotating~~ and a ~~thread~~ threads are provided on the inside wall of the elevating part 32 (not shown).

A pivot 35 is provided, with ~~thread~~ threads 36 on the inside wall ~~and screw~~ which correspond to the ~~thread~~ threads on the inside wall of the elevating part 32, which pivots (or rotates) in the shell 31.

A motor 37 has an endless ~~crew~~ screw 38 for meshing with a worm wheel 39 to bring cause a small gear 41 and a large gear 42 ~~rotating~~ to rotate and to bring cause the pivot 35 ~~rotating~~ to rotate also.

A rotator 43 ~~fixes~~ is fixed on the top of the elevating part 32 by a stud 44.

A receiver 45 ~~fixes~~ is fixed on the bottom of the putting green board by studs 46 and holds said rotator 43.

An elastic part 47 is provided on ~~aside~~ one side of the pivot 35 and an umbo 48 is provided at the bottom of the pivot 35. Said umbo 48 can press the elastic part 47 to touch a metal point 49 to pass a electric signal for counting the ~~rotation time~~ number of rotations of the pivot 35 and controlling the height of the elevating part 32.

Additionally, a microswitch 51 is provided at the nethermost~~lowermost~~ stop position of said shell 31 as shown in FIG. 16 and FIG. 19 and a press arm 52 is provided at the bottom of the elevating part 32. The microswitch 51 will send a signal to stop the motor 37 when the elevating part 32 goes down to the nethermost~~lowermost~~ stop position and ~~makes~~makes the press arm 52 ~~to~~—touch the microswitch 51. As shown in FIG. 16 and FIG. 20, there is a bearing base 53 provided at the bottom of the elevating part 32 and a microswitch 54 provided on said bearing base 53 for the uppermost stop position. When the elevating part goes up to the uppermost stop position, the microswitch 54 will touch the outer wall of the shell 31 and send a signal to stop the motor 37. Said two ~~of the~~  
~~switches~~switches are safety switches and these switches need not always be provided—~~whereas said~~in contrast to the counting function.

The device as shown in FIG. 21 and FIG. 22 is the second embodiment of present invention and three of the elevating ~~assemblers~~assemblies are all artificial elevating ~~assemblers~~assemblies therein for the user to adjust the sloping degree and direction of the putting green board by hand.